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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/635,720

08/06/2003

Shinichiro Kawano

MATS:027A

1940

7590

09/03/2004

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EXAMINER

JONES, JUDSON

ART UNIT

PAPER NUMBER

2834

DATE MAILED: 09/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/635,720

Applicant(s)

KAWANO ET AL.

Examiner

Judson H. Jones

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 28-52 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 28-47 and 50 is/are allowed.
- 6) ☒ Claim(s) 48,49,51 and 52 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☒ Certified copies of the priority documents have been received in Application No. 09/719,663.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 48 and 51 are rejected under 35 U.S.C. 102(b) as being anticipated by Denne 5,440,183 A. Denne discloses a moving magnet linear motor having a tubular outer yoke (shown in broad crosshatch on the outer surface of figure 21), an inner yoke (shown in the center of figure 21), coils (shown in black in figure 21), a ring shaped permanent magnet (shown in narrow crosshatch on element 210) and a tubular vibrator 210 as described in column 18 lines 1-8. Because the Denne device has coils on both the inner and outer yokes, the permanent magnet will necessarily be on the side of the yoke including the coil.

In regard to claim 51, see Denne column 2 lines 1-17 which explains that the Denne device may be used as a compressor.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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Claims 49 and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Denne in view of Ishikawa et al. 5,160,447 A. Denne discloses the linear motor used in a compressor but does not disclose the inner or outer yoke being formed from magnetic particles. Ishikawa et al. teaches in making a compressed powder yoke in column 1 lines 6-12 in order to prevent eddy current loss as explained in column 2 lines 51-56.

***Allowable Subject Matter***

Claims 28-47 and 50 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art of record does not disclose or teach a linear motor with a tubular vibrator made of magnetic material in combination with the other features of claim 1 and 50.

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Yamamoto et al. 6,184,597 B1 discloses a tubular vibrator made from a non-magnetic material in column 14 lines 62-65 for the purpose of preventing unnecessary eddy current loss as described in column 15 lines 6-12. Clark et al. 6,249,198 B1 shows a different type of vibrator where the magnet support is made from non-magnetic material as described in column 4 lines 31-35 for the purpose of reducing flux leakage and fringing as explained in last sentence of the abstract. Japanese reference 5-304754 discloses another type of vibrator using a fiber support reinforced by resin combined with a nonmagnetic shaft in order to not to disturb the field of the electromagnets as explained in paragraph 140. Denne shows a moving magnet sleeve assembly of an unknown material in figure 21 between an inner and outer yoke. In figure 12 Denne discloses a steel core piston used to support magnets 129 but this does not

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make it obvious that the moving magnet sleeve in figure 21 would be made from a magnetic material because the moving magnet on a sleeve between an inner and outer core is very different from a moving magnet on a piston. The flux path is different due to the inner core, for example, and also the moving magnet support does not need the same structural strength as a piston used for compressing fluid.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Judson H. Jones whose telephone number is 571-272-2025. The examiner can normally be reached on 8-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren Schuberg can be reached on 571-272-2044. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JHJ 8/25/2004

  
**THANH LAM**  
**PRIMARY EXAMINER**